

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE
in its capacity as elected Office

Date of mailing (day/month/year) 14 May 2001 (14.05.01)	
International application No. PCT/EP00/08843	Applicant's or agent's file reference ACD 2731 WO
International filing date (day/month/year) 01 September 2000 (01.09.00)	Priority date (day/month/year) 03 September 1999 (03.09.99)
Applicant JELENIC, Jernej	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

22 March 2001 (22.03.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Jean-Marie McAdams Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

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REC'D 29 NOV 2001

INTERNATIONAL PRELIMINARY EXAMINATION REPORT^{PCT}

(PCT Article 36 and Rule 70)

14

Applicant's or agent's file reference ACD 2731 WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/08843	International filing date (day/month/year) 01/09/2000	Priority date (day/month/year) 03/09/1999
International Patent Classification (IPC) or national classification and IPC C08F8/50		
Applicant AKZO NOBEL N.V. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 5 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 22/03/2001	Date of completion of this report 27.11.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Lux, R Telephone No. +49 89 2399 8593 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/08843

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-18 as originally filed

Claims, pages:

19,21 as originally filed

20 as received on 03/10/2001 with letter of 28/09/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/08843

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims
	No:	Claims 1-11
Inventive step (IS)	Yes:	Claims
	No:	Claims 1-11
Industrial applicability (IA)	Yes:	Claims 1-11
	No:	Claims

- 2. Citations and explanations**
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

R Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Independent claims 1, 6, 7, and 11 lack novelty and/or inventive step (Art. 33 (2)/(3) PCT) over D1 (FR-A-2 559 774).

D1 describes a process (and the corresponding products) for modifying polyolefins (eg polyethylene) wherein the polyolefin is crosslinked with peroxides (0.1-15 % by weight; cf. claim 6) **in the presence** of a graft copolymer derived from olefins and anhydrides (cf. claim 1).

Although, it is not explicitly mentioned in D1 that the modifying copolymer should also have acid groups, the skilled person knows that these copolymers always have acid functionality to a certain degree depending on the conditions of the polymerisation reaction and/or will produce this functionality during the crosslinking reaction.

The applicants contend (cf. page 8 of the specification) that D1 would show a "different" process or at least a "different" grafting reaction, however, this is not reflected in the wordings of the present claims ie no distinguishing feature can be recognized.

Moreover, compositions containing olefin-copolymers having anhydride and/or acid groups and further containing additives and/or carriers as defined in present claim 11 are well known in the art (see eg EP-A-0 269 274 (D4) and JP-A-08157646 or EP-A-0 429 123 cited on page 3 and page 4 of the present specification) and thus are not new either.

The distinguishing and inventive product feature of a claim drafted in the form of a product-by-process claim (cf. claim 6) should be demonstrated. A product produced by a novel process (which is not the case here) is not necessarily new. The process described in D1 involves crosslinking and therefore these prior art products should also not show blooming of peroxide decomposition products and reduced fogging and emission of volatile matter

The term "containing" introduced into claim 7 does not exclude the presence of a "rubber". Moreover, the broad definition of the polymeric component of claim 7 ("copolymer with olefin-derived moieties and anhydride and/or acid groups") encompasses "rubbers" as well. It is also noted that the "additives", and the carrier materials are optional only. Therefore, claim 7 does not include any distinguishing feature over D1.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP00/08843

R It m VII

Certain defects in the international application

The olefin/maleic anhydride copolymer Dapral PX 200® used in all Examples seems not to have any **acid** functionality as required by the language of claim 1 and thus seems not to be within the scope of the present invention?

To assist the applicants' understanding, the following explanation is given:

Claim 1 covers two types of copolymers comprising olefin-derived moieties. The expression "and/or" includes a first copolymer having anhydride and acid groups and a second copolymer having acid groups only, ie **both** types have acid functionalities.

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(meth)acrylic acid, maleic acid, fumaric acid, itaconic acid and/or citraconic acid, preferably from maleic anhydride or methacrylic acid.

6. Products obtainable by the process of any one of the preceding claims.

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7. Compositions containing:

- 5-60% by weight, based on the total weight of the composition, of one or more peroxides,
 - 0.1-500% by weight, based on the weight of the peroxide(s), of a copolymer with olefin-derived moieties and anhydride and/or acid groups,
 - optional further additives, and
 - 0-50% by weight of a carrier material,
- which are suitable for use in the process of claim 1.

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8. Composition according to claim 7 wherein the copolymer has a molecular weight from 500 to 50,000.

9. Composition according to claim 7 or 8 wherein the copolymer comprises olefinic units derived from propylene, butadiene, isobutylene and/or C₆ to C₂₄ α -olefins, preferably C₁₂ to C₁₈ olefins, and anhydride/acid groups derived from maleic anhydride; (di)alkyl/aryl-maleic anhydride; such as n-dodecylmaleic anhydride, citraconic anhydride, and maleic phenyl anhydride; (substituted) norbornene-2,3-dicarboxylic anhydride; (meth)acrylic acid; maleic acid; fumaric acid; itaconic acid and/or citraconic acid, preferably from maleic anhydride or methacrylic acid.

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DIALOG(R) File: 351:Derwent WPI

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WPI Acc No: 1968-29418P/196800

Compsn. contains an olefin (co)polymer, a reinforcing filler, at least one cross-linking agent which is**alpha-alpha-bis-t-butyl-peroxy)-p-diisopropylbenzene or**

Patent Assignee: MONTECATINI SPA (MONT)

Number of Countries: 004 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 1386695	A					196800 B
GB 1033041	A					196801
US 3317454	A					196801
DE 1569148	A	19710207				198438

Abstract (Basic): FR 1386695 A

Compsn. contains an olefin (co)polymer, a reinforcing filler, at least one cross-linking agent which is alpha-alpha-bis-t-butyl-peroxy)-p-diisopropylbenzene or a mixture of the m- and p-isomers, and to prevent blooming an aliphatic polyalcohol opt. admixed with equal parts of silicic acid, alkylene glycols and polyoxyalkylenes.

Title Terms: COMPOSITION; CONTAIN; OLEFIN; CO; POLYMER; REINFORCED; FILL; ONE; CROSS; LINK; AGENT; ALPHA; DI; BUTYL; PEROXY; P

Derwent Class: A00

International Patent Class (Additional): C08F-029/02

File Segment: CPI

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/08843

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C08F8/50 C08K5/14 C08C19/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C08F C08K C08C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, WPI Data, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 559 774 A (NESTLE OY) 23 August 1985 (1985-08-23) page 3, line 7 -page 5, line 18 page 5, line 28 -page 6, line 5; claims 1-8	1-11
Y	DE 15 69 148 A (MONTECATINI EDISON S.P.A.) 7 January 1971 (1971-01-07) the whole document	1-11
Y	DATABASE WPI Section Ch, Week 9841 Derwent Publications Ltd., London, GB; Class A60, AN 1991-306997 XP002128909 & JP 03 205483 A (SUMITOMO ELECTRIC IND. CO.), 6 September 1991 (1991-09-06) abstract	1-11
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

27 December 2000

Date of mailing of the international search report

05/01/2001

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Permentier, W

INTERNATIONAL SEARCH REPORT

Inter national Application No
PCT/EP 00/08843

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 269 274 A (MITSUI PETROCHEMICAL INDUSTRIES, LTD.) 1 June 1988 (1988-06-01) page 2, line 1 - line 20 page 3, line 17 -page 4, line 53 page 5, line 44 - line 58; claims 1-11 ---	1-11
Y	EP 0 324 883 A (IDEMITSU PETROCHEMICAL CO., LTD.) 26 July 1989 (1989-07-26) the whole document ---	1-11
A	US 3 562 304 A (J. TUCKER) 9 February 1971 (1971-02-09) column 2, line 26 - line 52 column 3, line 7 - line 23; claims 1-9 ---	1
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A	G. S. SRINIVASA RAO: "FUNCTIONALIZATION OF ISOTACTIC POLYPROPYLENE WITH ACRYLIC ACID IN THE MELT: SYNTHESIS, CHARACTERIZATION AND EVALUATION OF THERMOMECHANICAL PROPERTIES." EUR. POLYM. JOURNAL, vol. 32, no. 6, 1996, pages 695-700, XP000587700 page 695 -page 700 ---	1
A	GB 2 053 234 A (HERCULES INCORPORATED) 4 February 1981 (1981-02-04) cited in the application page 1, line 80 - line 85 page 1, line 123 -page 2, line 12; claims 1-7 ---	1
A	US 3 420 891 A (O. L. MAGELI) 7 January 1969 (1969-01-07) cited in the application column 1, line 36 - line 50 column 4, line 62 -column 5, line 35; claims 1-5 ---	1
A	FR 1 336 414 A (PHILLIPS PETROLEUM COMPANY) 16 December 1963 (1963-12-16) page 1, column 2, paragraph 4 page 13 ---	1
A	WO 95 11938 A (AKZO NOBEL N.V.) 4 May 1995 (1995-05-04) claims 1-20 ---	1
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INTERNATIONAL SEARCH REPORT

Inter-
national Application No
PCT/EP 00/08843

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 257 346 A (J. T. GRUVER) 21 June 1966 (1966-06-21) claims 1-10 ---	1
A	EP 0 370 753 A (MITSUI PETROCHEMICAL INDUSTRIES, LTD.) 30 May 1990 (1990-05-30) page 3, line 12 -page 4, line 50 page 5, line 52 -page 6, line 2; claims 1-12 -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/08843

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